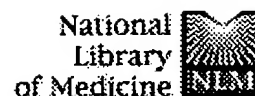


WEST Search History

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	<i>DB=PGPB,USPT,EPAB,JPAB,DWPI; PLUR=YES; OP=OR</i>		
<input type="checkbox"/>	L4	lantibiotic same (cobalt or metal or transition)	5
<input type="checkbox"/>	L3	bacteriocin same (cobalt or metal or transition)	20
<input type="checkbox"/>	L2	nisin same (cobalt or metal or transition)	23
<input type="checkbox"/>	L1	nicin same (cobalt or metal or transition)	18

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#33	Search lantionine AND (metal or cobalt) Field: All Fields, Limits: Publication Date to 2002/02/22	11:59:12	<u>6</u>
#27	Related Articles for PubMed (Select 10563973)	11:56:22	<u>154</u>
#26	Search (subtilin or cinnamycin or variacin) AND (metal or cobalt or zinc) Field: All Fields, Limits: Publication Date to 2002/02/22	11:56:13	<u>1</u>
#18	Search lantibiotic AND (metal or cobalt) Field: All Fields, Limits: Publication Date to 2002/02/22	11:47:45	<u>4</u>
#21	Related Articles for PubMed (Select 7630881)	11:47:00	<u>146</u>
#17	Search lantibiotic AND (metal or cobalt) Field: Title/Abstract, Limits: Publication Date to 2002/02/22	11:37:27	<u>0</u>
#13	Search nisin AND metal Field: Title/Abstract, Limits: Publication Date to 2002/02/22	10:43:45	<u>3</u>
#12	Search (nisin) AND (cobalt or zinc or transition metal*) Field: Title/Abstract, Limits: Publication Date to 2002/02/22	10:41:27	<u>0</u>
#11	Search (nisin) AND (cobalt or zinc or transition metal*) Limits: Publication Date to 2002/02/22	10:41:16	<u>1</u>
#10	Related Articles for PubMed (Select 4962191)	10:40:53	<u>233</u>
#4	Search (nisin or bacteriocin) AND (cobalt or zinc or transition metal*) Field: All Fields, Limits: Publication Date to 2002/02/22	10:37:47	<u>6</u>

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Jan 5 2004 07:19:12

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(FILE 'HOME' ENTERED AT 10:46:53 ON 14 JAN 2004)

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, AQUASCI, BIOBUSINESS, BIOCOMMERCE, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CANCERLIT, CAPLUS, CEABA-VTB, CEN, CIN, CONFSCI, CROPB, CROPU, DISSABS, DDFB, DDFU, DGENE, DRUGB, DRUGMONOG2, ...' ENTERED AT 10:47:14 ON 14 JAN 2004

SEA (BACTERIOCIN OR NICIN) (P) (COBALT OR METAL OR TRANSITION)

0* FILE ADISNEWS
2 FILE AGRICOLA
1 FILE AQUASCI
2 FILE BIOBUSINESS
1* FILE BIOCOMMERCE
29 FILE BIOSIS
6* FILE BIOTECHABS
6* FILE BIOTECHDS
18* FILE BIOTECHNO
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33 FILE CAPLUS
0* FILE CEABA-VTB
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5 FILE DISSABS
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3 FILE EMBAL
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12 FILE GENBANK
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0* FILE NUTRACEUT
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0* FILE PHARMAML
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22 FILE SCISEARCH
28 FILE TOXCENTER
27 FILE USPATFULL
3 FILE USPAT2
8 FILE WPIDS
8 FILE WPINDEX

L1 QUE (BACTERIOCIN OR NICIN) (P) (COBALT OR METAL OR TRANSITION)

FILE 'MEDLINE, CAPLUS, BIOSIS, BIOTECHNO, EMBASE, LIFESCI, TOXCENTER, SCISEARCH' ENTERED AT 10:50:27 ON 14 JAN 2004

L2 191 S L1
L3 97 S L2 AND (BACTERIOCIN OR NICIN) (S) (COBALT OR METAL OR TRANSI
L4 54 S L3 AND (BACTERIOCIN OR NICIN) (S) (METAL OR COBALT)

L5 19 DUP REM L4 (35 DUPLICATES REMOVED)
L6 0 S L5 AND NICIN
L7 0 S L2 AND NICIN
L8 54 S L3 AND (BACTERIOCIN OR NISIN) (S) (METAL OR COBALT)
L9 19 DUP REM L8 (35 DUPLICATES REMOVED)
L10 6 S L8 AND NISIN
L11 2 S L9 AND L10
L12 70 S NISIN (P) (COBALT OR METAL OR TRANSITION)
L13 25 DUP REM L12 (45 DUPLICATES REMOVED)
L14 24 S L13 NOT L11
L15 14 S L14 AND (COBALT OR METAL)
L16 15 S L14 AND (COBALT OR METAL)
L17 11 S L16 NOT PY>2002

L11 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN

AN 2003:737124 CAPLUS

DN 139:260316

TI **Bacteriocin-metal** complexes in the detection of pathogens and other biological analytes

IN Olstein, Alan D.; Feirtag, Joellen

PA USA

SO U.S. Pat. Appl. Publ., 24 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2003175207	A1	20030918	US 2002-82618	20020222
PRAI	US 2002-82618		20020222		

AB Complexes of **bacteriocins** and **metals** are provided that are useful in detecting bacteria, fungi and other biol. analytes, and are particularly useful in detecting gram pos. bacteria. The complexes are preferably chelated complexes wherein the **bacteriocin** is a lantibiotic, non-lanthionine contg. peptide, large heat labile protein and complex **bacteriocin**, fusion protein thereof, mixt. thereof, and fragment, homolog and variant thereof, and (b) a detectable label comprising a **transition** or lanthanide **metal**. The complex preferentially binds to viable gram pos. or mycobacterial cells. The complex can also bind to gram neg. bacteria and fungi. Methods of using the complexes in assays, diagnosis and imaging are also provided.

L11 ANSWER 2 OF 2 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN

AN 2003:37135060 BIOTECHNO

TI Synergy between **nisin** and select lactates against *Listeria monocytogenes* is due to the **metal** cations

AU McEntire J.C.; Montville T.J.; Chikindas M.L.

CS M.L. Chikindas, Department of Food Science, NJ Agricultural Experiment Station, Rutgers, State Univ. of New Jersey, New Brunswick, NJ 08901, United States.

E-mail: tchikindas@aesop.rutgers.edu

SO Journal of Food Protection, (01 SEP 2003), 66/9 (1631-1636), 17 reference(s)

CODEN: JFPRDR ISSN: 0362-028X

DT Journal; Article

CY United States

LA English

SL English

AB *Listeria monocytogenes*, a major foodborne pathogen, has been responsible for many outbreaks and recalls. Organic acids and antimicrobial peptides (**bacteriocins**) such as **nisin** are produced by lactic acid bacteria and are commercially used to control pathogens in some foods. This study examined the effects of lactic acid (LA) and its salts in combination with a commercial **nisin** preparation on the growth of *L. monocytogenes* Scott A and its **nisin**-resistant mutant. Because of an increase in its activity at a lower pH, **nisin** was more active against *L. monocytogenes* when used in combination with LA. Most of the salts of LA, including potassium lactate, at up to 5% partially inhibited the growth of *L. monocytogenes* and had no synergy with **nisin**. Zinc and aluminum lactate, as well as zinc and aluminum chloride (0.1%), worked synergistically with 100 IU of **nisin** per ml to control the growth of *L. monocytogenes* Scott A. No synergy was observed when zinc or aluminum lactate was used with **nisin** against **nisin**-resistant

L. monocytogenes. The **nisin**-resistant strain was more sensitive to Zn lactate than was wild-type *L. monocytogenes* Scott A; however, the cellular ATP levels of the **nisin**-resistant strain were not significantly affected. Changes in the intracellular ATP levels of the wild-type strain support our hypothesis that pretreatment with zinc lactate sensitizes cells to **nisin**. The similar effects of the salts of hydrochloric and lactic acids support the hypothesis that **metal** cations are responsible for synergy with **nisin**.

17 ANSWER 1 OF 11 MEDLINE on STN
 AN 2001500328 MEDLINE
 DN 21433888 PubMed ID: 11408491
 TI Xyloside transport by XylP, a member of the galactoside-pentoside-hexuronide family.
 AU Heuberger E H; Smits E; Poolman B
 CS Department of Biochemistry, Groningen Biomolecular Sciences and Biotechnology Institute, University of Groningen, Nijenborgh 4, 9747 AG Groningen, The Netherlands.
 SO JOURNAL OF BIOLOGICAL CHEMISTRY, (2001 Sep 14) 276 (37) 34465-72.
 Journal code: 2985121R. ISSN: 0021-9258.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)
 LA English
 FS Priority Journals
 EM 200110
 ED Entered STN: 20010911
 Last Updated on STN: 20030105
 Entered Medline: 20011011
 AB This paper describes the functional characterization of the xyloside transporter, XylP, of *Lactobacillus pentosus* with the aid of a spectroscopy-based assay system. In order to monitor the transport reaction, the natural xyloside isoprimeverose, a building block of hemicellulose, and the analogue methyl-isoprimeverose were chemically synthesized by a new and efficient procedure. The XylP protein was purified by **metal** affinity chromatography, following high level expression in *Lactococcus lactis* from the **nisin**-inducible promoter. The purified XylP protein was incorporated into liposomes, in which the glucose dehydrogenase from *Acinetobacter calcoaceticus* (sGDH) was entrapped. sGDH can oxidize aldose sugars in the presence of dichlorophenol-indophenol as electron acceptor. The coupled assay thus involves XylP-mediated isoprimeverose uptake followed by internal oxidation of the sugar by sGDH, which can be monitored from the reduction of 2,6-dichlorophenol-indophenol at 600 nm. The uptake of isoprimeverose was stimulated by the presence of the non-oxidizable methyl-isoprimeverose on the trans-side of the membrane, indicating that exchange transport is faster than unidirectional downhill uptake. Unlike other members of the galactoside-pentoside-hexuronide family, XylP does not transport monosaccharides (xylose) but requires a glycosidic linkage at the anomeric carbon position. Consistent with a proton motive force-driven mechanism, the uptake was stimulated by a membrane potential (inside negative relative to outside) and inhibited by a pH gradient (inside acidic relative to outside). The advantages of the here-described transport assay for studies of carbohydrate transport are discussed.

=> d 2-11 117 bib,abs

L17 ANSWER 2 OF 11 MEDLINE on STN
 AN 2000405069 MEDLINE
 DN 20031856 PubMed ID: 10563973
 TI Chemistry, biochemistry, nutrition, and microbiology of lysinoalanine, lanthionine, and histidinoalanine in food and other proteins.
 AU Friedman M
 CS Western Regional Research Center, Agricultural Research Service, U.S. Department of Agriculture, Albany, CA 94710, USA.
 SO JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY, (1999 Apr) 47 (4) 1295-319.
 Ref: 280
 Journal code: 0374755. ISSN: 0021-8561.
 CY United States
 DT Journal; Article; (JOURNAL ARTICLE)

General Review; (REVIEW)
(REVIEW, ACADEMIC)

LA English

FS Priority Journals

EM 200008

ED Entered STN: 20000901

Last Updated on STN: 20000901

Entered Medline: 20000822

AB Heat and alkali treatments of foods, widely used in food processing, result in the formation of dehydro and cross-linked amino acids such as dehydroalanine, methyldehydroalanine, beta-aminoalanine, lysinoalanine (LAL), ornithinoalanine, histidinoalanine (HAL), phenylethylaminoalanine, lanthionine (LAN), and methyl-lanthionine present in proteins and are frequently accompanied by concurrent racemization of L-amino acid isomers to D-analogues. The mechanism of LAL formation is a two-step process: first, hydroxide ion-catalyzed elimination of H(2)S from cystine and H(2)O, phosphate, and glycosidic moieties from serine residues to yield a dehydroalanine intermediate; second, reaction of the double bond of dehydroalanine with the epsilon-NH(2) group of lysine to form LAL. Analogous elimination-addition reactions are postulated to produce the other unusual amino acids. Processing conditions that favor these transformations include high pH, temperature, and exposure time. Factors that minimize LAL formation include the presence of SH-containing amino acids, sodium sulfite, ammonia, biogenic amines, ascorbic acid, citric acid, malic acid, and glucose; dephosphorylation of O-phosphoryl esters; and acylation of epsilon-NH(2) groups of lysine. The presence of LAL residues along a protein chain decreases digestibility and nutritional quality in rodents and primates but enhances nutritional quality in ruminants. LAL has a strong affinity for copper and other metal ions and is reported to induce enlargement of nuclei of rats and mice but not of primate kidney cells. LAL, LAN, and HAL also occur naturally in certain peptide and protein antibiotics (cinnamycin, duramycin, epidermin, nisin, and subtilin) and in body organs and tissues (aorta, bone, collagen, dentin, and eye cataracts), where their formation may be a function of the aging process. These findings are not only of theoretical interest but also have practical implications for nutrition, food safety, and health. Further research needs are suggested for each of these categories. These overlapping aspects are discussed in terms of general concepts for a better understanding of the impact of LAL and related compounds in the diet. Such an understanding can lead to improvement in food quality and safety, nutrition, microbiology, and human health.

L17 ANSWER 3 OF 11 MEDLINE on STN

AN 92042212 MEDLINE

DN 92042212 PubMed ID: 1658003

TI Purification and properties of fructokinase I from Lactococcus lactis. Localization of scrK on the sucrose-nisin transposon Tn5306.

AU Thompson J; Sackett D L; Donkersloot J A

CS Laboratory of Microbial Ecology, National Institute of Dental Research, National Institutes of Health, Bethesda, Maryland 20892.

SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1991 Nov 25) 266 (33) 22626-33.

Journal code: 2985121R. ISSN: 0021-9258.

CY United States

DT Journal; Article; (JOURNAL ARTICLE)

LA English

FS Priority Journals

EM 199112

ED Entered STN: 19920124

Last Updated on STN: 19990129

Entered Medline: 19911226

AB Two electrophoretically distinct proteins with fructokinase

(ATP:fructose-6-phosphotransferase) activity were detected in *Lactococcus lactis* subsp. *lactis* K1. Whereas fructokinase I was induced specifically by growth of the organism on sucrose, fructokinase II was derepressed during growth on ribose, galactose, maltose, and lactulose. Fructokinase I was purified about 1000-fold to electrophoretic homogeneity (specific activity 112 units/mg). The amino acid composition, N-terminal sequence, nucleoside triphosphate, and **metal** requirement(s) of the enzyme are reported. Ultracentrifugal analysis showed that the enzyme was primarily dimeric with subunits of 33.5 kDa (+/- 5%). When completely reduced, fructokinase I migrated as a single protein (Mr = 32,000) by sodium dodecyl sulfate-polyacrylamide gel electrophoresis, but in the absence of reducing agent two polypeptides (apparent Mr = 29,000 and 31,000) were detected. Isoelectric focusing also revealed two polypeptides (pI 5.6 and 5.8), and both species catalyzed the phosphorylation of fructose and mannose. Hybridization studies showed that: (i) a sucrose-negative mutant lacking the fructokinase I gene (*scrK*) retained fructokinase II activity and (ii) *scrK* is closely linked to *scrA* and *scrB* which encode Enzyme IIScr and sucrose-6-phosphate hydrolase, respectively. In *L. lactis* K1, these genes and the N5-(1-carboxyethyl)-L-ornithine synthase gene (*ceo*) are encoded on the sucrose-**nisin** transposon Tn5306 in the order *ceo-scrKAB*.

L17 ANSWER 4 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:503251 CAPLUS

DN 127:108243

TI Bacterial decontamination method

IN Miles, Roger Joseph; Cassar, Claire Amanda; Da Silva Carneiro De Melo, Alexandra Maria

PA Minister of Agriculture Fisheries and Food, UK; Miles, Roger Joseph; Cassar, Claire Amanda; Da Silva Carneiro De Melo, Alexandra Maria

SO PCT Int. Appl., 36 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9723136	A1	19970703	WO 1996-GB3173	19961220
	W:	AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, HU, IS, JP, KE, KG, KR, KZ, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, TJ, TM, TR, TT, UA, UG, US, UZ, VN, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			
	RW:	KE, LS, MW, SD, SZ, UG, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
	AU 9711657	A1	19970717	AU 1997-11657	19961220
	EP 868122	A1	19981007	EP 1996-942523	19961220
	R:	AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI			
	JP 2000503002	T2	20000314	JP 1997-523407	19961220
PRAI	GB 1995-26174		19951221		
	WO 1996-GB3173		19961220		
AB	Methods for the redn. of levels of gram neg. and gram pos. bacteria are disclosed which involve treatment with a soln. of low concn. alkali metal orthophosphate combined with either osmotic shock and/or subsequently a lysozyme in soln. and/or nisin in soln. The combination process is synergistic in extending the range of effective killing of bacteria and enables the use of more desirable processing parameters than the previous techniques and is particularly suitable for food processing.				

L17 ANSWER 5 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1997:67422 CAPLUS

DN 126:79790

Ti Oral compositions containing nisin

IN Mcconville, Peter Scott; Bartlett, Mike; Price, Fiona

PA Smithkline Beecham Plc, UK; Mcconville, Peter Scott; Bartlett, Mike; Price, Fiona

SO PCT Int. Appl., 16 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9637181	A1	19961128	WO 1996-EP2222	19960522
	W: JP, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 828474	A1	19980318	EP 1996-917411	19960522
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	JP 11505819	T2	19990525	JP 1996-535392	19960522
PRAI	GB 1995-10719		19950526		
	WO 1996-EP2222		19960522		

OS MARPAT 126:79790

AB The use of a **nisin** compn. for the manuf. of an oral hygiene compn. for the control of candida characterized in that the compn. comprises at least two components selected from a humectant, a **metal** ion chelator and a flavor, excluding any other antimicrobial agent, plus an orally acceptable carrier or excipient. A non-alc. mouthwash contained ambicin 0.03, glycerin 5.00, flavor 0.12, disodium EDTA 0.037, sodium saccharin 0.005, patent blue V 0.0002, N-acetyl-D-methionine 0.24, sodium fluoride 0.02, detergent 1.60, and water q.s. 100%.

L17 ANSWER 6 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1996:634246 CAPLUS

DN 125:313808

Ti Charge sensitivity of superconducting single-electron transistor

AU Korotkov, Alexander N.

CS Dep. Physics, State Univ. New York, Stony Brook, NY, 11794-3800, USA

SO Applied Physics Letters (1996), 69(17), 2593-2595

CODEN: APPLAB; ISSN: 0003-6951

PB American Institute of Physics

DT Journal

LA English

AB It is shown that the noise-limited charge sensitivity of a single-electron transistor using superconductors (of either SISIS- or **NISIN** -type) operating near the threshold of quasiparticle tunneling can be considerably higher than that of a similar transistor made of normal **metals** or semiconductors. The reason is that the superconducting energy gap, in contrast to the Coulomb blockade, is not smeared by the finite temp. The authors also discuss the increase of the max. operation temp. due to supercond. and the peaklike features on the I-V curve of SISIS structures.

L17 ANSWER 7 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN

AN 1994:656317 CAPLUS

DN 121:256317

TI Electrospray mass spectroscopic analysis of **metal**-peptide complexes

AU Surovoy, Andrej; Waidelich, Dietmar; Jung, Guenther
 CS Shemyakin Inst. Bioorganic Chem., Moscow, Russia
 SO Pept. 1992, Proc. Eur. Pept. Symp., 22nd (1993), Meeting Date 1992, 563-4.
 Editor(s): Schneider, Conrad H.; Eberle, Alex N. Publisher: ESCOM, Leiden,
 Neth.
 CODEN: 60LUAN
 DT Conference
 LA English
 AB A report from a symposium on electrospray mass spectroscopic anal. of zinc
 complexes of nucleocapsid protein fragment NCp7 and lantibiotic nisin
 precursor prenisin.

L17 ANSWER 8 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1969:86373 CAPLUS
 DN 70:86373
 TI Effects of selected food additives on growth of *Pseudomonas fragi*
 AU Moustafa, Hassan H.; Collins, Edwin B.
 CS Univ. of California, Davis, CA, USA
 SO Journal of Dairy Science (1969), 52(3), 335-40
 CODEN: JDSCAE; ISSN: 0022-0302
 DT Journal
 LA English
 AB Tests were made of inhibition of *P. fragi* in lactose-yeast ext. broth by
 the food additives chlortetracycline, **nisin**, bacitracin,
 chloramphenicol, lysozyme, EDTA, nitrofurazone, propyl-p-hydroxybenzoate,
 Na benzoate, and K sorbate. The additives that proved effective in broth
 were tested in skim milk and half-and-half. **Nisin**, bacitracin,
 lysozyme, and nitrofurazone were ineffective in broth; chloramphenicol
 increased the lag period prior to development of turbidity but resulted in
 chloramphenicol-resistant populations, and EDTA inhibited the bacterium
 slightly in broth but not in skim milk or half-and-half. Propyl - p -
 hydroxybenzoate, chlortetracycline, and a mixt. of lysozyme and EDTA were
 effective in broth but not in skimmilk or half-and-half, a difference
 attributed to **metal** ions in dairy products that react with
 chlortetracycline and EDTA. Na benzoate retarded *P. fragi* in broth, but
 only at low pH. K sorbate was ineffective at pH 6.5 in broth, but at pH
 5.5 and 5.2 inhibited growth of *P. fragi* in broth, skimmilk, and
 half-and-half.

L17 ANSWER 9 OF 11 CAPLUS COPYRIGHT 2004 ACS on STN
 AN 1968:409797 CAPLUS
 DN 69:9797
 TI Food additives control in the United Kingdom
 AU West, Geoffrey Buckle
 CS Brit. Ind. Biol. Res. Assoc., Carshalton, UK
 SO Reports on the Progress of Applied Chemistry (1966), 51, 366-78
 CODEN: RPACAS; ISSN: 0370-6648
 DT Journal
 LA English
 AB Substances added directly for color preservation or flavoring and those
 getting into food through processing or packaging materials are discussed.
 Procedures for control through official agencies are described. Low
 toxicity is essential for each. In relating the max. daily tolerated dose
 producing no ill effects in test animals with daily human intake a safety
 factor of 100 is used, but may have to be increased in particular cases.
 Modifications are made for different types of additives. Ponceau 3R and
 SX, Naphthol Yellow S, Blue VRS, Yellow RFS, and RY have been withdrawn
 from permitted coal tar colors. Flavorings recommended for withdrawal are
 coumarin, tonka bean, dihydro-, iso-, and safrole, agaric acid,
 nitrobenzene, dulcamara, male fern, and sassafras, pennyroyal, tansy, rue,
 birch tar, cade, and volatile bitter almond oils. As solvents, only EtOH,

EtOAc, glycerol and its mono-, di-, and triacetate, iso-PrOH, and propylene glycol are recommended for food prepn. The latter 2 are provisional pending long-term toxicity studies. Cyclamates are favored as sweeteners. The U.K. is now without legal control of packaging materials. Much interest is being shown for the control of migrants. Proposals by J. P. Frawley (1966) are presented; these suggest that any component of an article contg. food present in the article or its coating at a level not exceeding 0.2% by wt. is toxicologically insignificant provided it is not a heavy **metal** or pesticide. Unexpected and unwanted effects by additives are discussed. These include nitrites in meat and fish curing, ethylene oxide as fumigant, diethylene glycol mono-Et ether as solvents, and use of **nisin** (polypeptide from streptococci) for reducing sterilizing temps. in certain foods.

L17 ANSWER 10 OF 11 BIOSIS COPYRIGHT 2004 BIOLOGICAL ABSTRACTS INC. on STN
 AN 1974:51170 BIOSIS
 DN PREV197410051170; BR10:51170
 TI EFFECT OF **COBALT**-60 GAMMA RADIATION ON THE STRUCTURE AND
 FUNCTION OF PENICILLIN OXYTETRACYCLINE AND **NISIN**.
 AU GUPTA K G; VYAS K K; SEHKNON N S
 SO (1973) pp. 1973. U N E S C O AND W H O. GLOBAL IMPACTS OF APPLIED
 MICROBIOLOGY. 4TH INTERNATIONAL CONFERENCE IMPACTOS GLOBAIS DA
 MICROBIOLOGIA APLICADA. INCIDENCES MONDIALES DE LA MICROBIOLOGIE
 APPLIQUEE. IMPACTOS GLOBALES DE LA MICROBIOLOGIA APLICADA SAO PAULO,
 BRAZIL, JULY 23-28, 1973. 35P. UNIPUB, INC.; P.O. BOX 433, NEW YORK, N.
 Y., U.S.A.
 DT Book
 FS BR
 LA Unavailable

L17 ANSWER 11 OF 11 SCISEARCH COPYRIGHT 2004 THOMSON ISI on STN
 AN 91:653396 SCISEARCH
 GA The Genuine Article (R) Number: GR564
 TI PURIFICATION AND PROPERTIES OF FRUCTOKINASE-I FROM LACTOCOCCUS-LACTIS -
 LOCALIZATION OF SCRK ON THE SUCROSE-NISIN TRANSPOSON TN5306
 AU THOMPSON J (Reprint); SACKETT D L; DONKERSLOOT J A
 CS NIDR, MICROBIAL ECOL LAB, BLDG 30, RM 528, 9000 ROCKVILLE PIKE, BETHESDA,
 MD, 20892 (Reprint); NIADDKD, BETHESDA, MD, 20892
 CYA USA
 SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1991) Vol. 266, No. 33, pp. 22626-22633.
 DT Article; Journal
 FS LIFE
 LA ENGLISH
 REC Reference Count: 43
 ABSTRACT IS AVAILABLE IN THE ALL AND IALL FORMATS

AB Two electrophoretically distinct proteins with fructokinase (ATP:
 fructose-6-phosphotransferase) activity were detected in Lactococcus
 lactis subsp. lactis K1. Whereas fructokinase I was induced specifically
 by growth of the organism on sucrose, fructokinase II was derepressed
 during growth on ribose, galactose, maltose, and lactulose. Fructokinase I
 was purified about 1000-fold to electrophoretic homogeneity (specific
 activity 112 units/mg). The amino acid composition, N-terminal sequence,
 nucleoside triphosphate, and **metal** requirement(s) of the enzyme
 are reported. Ultracentrifugal analysis showed that the enzyme was
 primarily dimeric with subunits of 33.5 kDa (+/- 5%). When completely
 reduced, fructokinase I migrated as a single protein (M(r) = 32,000) by
 sodium dodecyl sulfate-polyacrylamide gel electrophoresis, but in the
 absence of reducing agent two polypeptides (apparent M(r) = 29,000 and 3
 1,000) were detected. Isoelectric focusing also revealed two polypeptides
 (pI 5.6 and 5.8), and both species catalyzed the phosphorylation of
 fructose and mannose. Hybridization studies showed that: (i) a

sucrose-negative mutant lacking the fructokinase I gene (scrK) retained fructokinase II activity and (ii) scrK is closely linked to scrA and scrB which encode Enzyme II(Ser) and sucrose-6-phosphate hydrolase, respectively. In *L. lactis* K1, these genes and the N5-(1-carboxyethyl)-L-ornithine synthase gene (ceo) are encoded on the sucrose-**nisin** transposon Tn5306 in the order ceo-scrKAB.